

WHAT IS CLAIMED IS:

1. A router apparatus comprising:

a plurality of routing tables for storing therein route information used to transfer received data;

5 a rewriting information saving unit for saving a writing sequence of said plurality of routing tables;

a table switching unit for switching said plurality of routing tables; and

a route processor unit for managing, for example,
10 setting/rewriting/deleting the routing table based upon route information supplied by a network operator, or route information obtained by routing protocol,

wherein when a communication failure caused by the routing table occurs, said failed routing table is switched to another
15 routing table into which old route information has been stored so as to continue the communication.

2. A router apparatus comprising:

a plurality of routing tables into which new route information is stored every time route information is changed;

20 a rewriting time saving unit for saving rewriting time information of said plurality of routing tables;

a table switching unit for switching said plurality of routing tables; and

a route processor unit for managing, for example,

setting/rewriting/deleting the routing table based upon route information supplied by a network operator, or route information obtained from routing protocol,

wherein when a communication failure caused by the routing table occurs, said failed routing table is switched to another routing table into which old route information has been stored so as to continue the communication, and also, a communication failure reason is investigated by comparing the route information before/after said failed routing table is switched.

10 3. A router apparatus as claimed in claim 2, wherein said old route information is the latest route information.

4. A router apparatus as claimed in claim 3, wherein only difference information is stored into said plurality of routing tables.

15 5. A routing apparatus comprising:

a main routing table for storing thereinto latest route information required to transfer received data;

a plurality of sub-routing tables for storing thereinto old information when an update process operation is carried out with respect to said main routing table, said old information being related only to a main table portion where said update process operation is carried out;

a Round-Robin register for saving a writing sequence to said main routing table;

a Round-Robin control unit for controlling said Round-Robin register; and

a route processor unit for managing, for example, setting/rewriting/deleting the routing table based upon route
5 information supplied by a network operator, or route information obtained by routing protocol,

wherein when a communication failure caused by the routing table occurs, said Round-Robin control unit receives a failure occurrence notification issued from said route processor unit, and
10 returns the condition of the failed routing table to the condition of the routing table immediately before the communication failure occurs so as to continue the communication.